

Learning Progression

SEISMIC

Grade level: K-2 PD

Prerequisite skill: Teachers likely have extensive experience with computation with whole numbers, grades K-5, using multiple methods.

Learning Target:

In a multi-digit whole number, a digit in one place represents n times what it represents in the place to its right, where n is the base number. (4.NBT.1)

Success Criteria:

I can explain the value of a digit in a number in relation to other digits in the number in both base six and base ten.

Formative Assessment:

Place a value (1 billion) on a number line (1 to 1 trillion). Explain its placement with place value concepts. "I used to think.... Now I think...."

Learning Target:

Various tools (i.e., five frame, ten frame, rekenrek, bead frame, hundred chart, and place value chart) represent and highlight different aspects of place value number systems.

Success Criteria:

I can identify how the base ten structure of our number system is used and highlighted in various tools used in mathematics education.

Formative Assessment:

Exit Slip: Choose a tool that you modified for base six. Explain how it might be used to demonstrate quantities in base six, as well as relate these quantities to landmark numbers.

Learning Target:

Addition of multi-digit numbers can be performed in multiple ways by utilizing properties of addition, landmark numbers, and place value.

Success Criteria:

I can add multi-digit numbers in multiple ways, and explain how each process relates to properties of the operations and place value.

Formative Assessment:

Demonstration of multiple ways to add multi-digit numbers, with accurate explanation of how this relates to place value and draws upon properties of the operations.

Learning Target:

Subtraction of multi-digit numbers can be performed in multiple ways by utilizing properties of operations, landmark numbers, and place value.

Success Criteria:

I can subtract multi-digit numbers in multiple ways, and explain how each process relates to properties of the operations and place value.

Formative Assessment:

Demonstration of multiple ways to subtract multi-digit numbers, with accurate explanation of how this relates to place value and draws upon properties of the operations.

Big Idea:

Operations in our number system are built on properties of the operations and the place value, base 10 structure of our number system.

Later math concepts that build on this big idea include:

- Multiplication and Division with Whole Numbers
- Computation with decimals
- Proportional reasoning